LISTING OF CLAIMS

1. (Currently Amended) A method comprising:

obtaining first data to be delivered to multiple user devices via a common channel;

obtaining second data to be delivered to a specific user device via a dedicated channel;

acquiring channel information for a common channel between a transmitter and said specific user device; and

generating a transmit signal for said specific user device using said first data, said second data, and said channel information, said transmit signal to be transmitted from said transmitter to said specific user device via said dedicated channel, wherein generating said transmit signal includes:

determining a common channel interference component using said first data and said channel information for said common channel; [[and]]

determining a difference between said common channel interference component and said second data;

performing a modulo lattice operation on said difference; and

scaling a result of the modulo lattice operation using a power value associated with the specific user device.

2. (Currently Amended) The method of claim 1, further comprising:

acquiring channel information for a dedicated channel between said transmitter and said specific user device before generating said transmit signal, wherein generating said transmit signal includes using said channel information for said dedicated channel;

wherein scaling the result of the modulo lattice operation also uses said channel information for said dedicated channel.

3. (Original) The method of claim 1, wherein:

said transmit signal is configured so that common channel interference will be at least partially cancelled within said specific user device after reception therein.

4. (Original) The method of claim 3, wherein:

said method is for use within a code division multiple access (CDMA) based system; and

said common channel interference will be at least partially cancelled at the chip level.

5. (Original) The method of claim 3, wherein:

said method is for use within a CDMA based system; and

said common channel interference will be at least partially cancelled at the symbol level.

6. (Original) The method of claim 1, wherein:

acquiring channel information includes receiving channel information from said specific user device.

7. (Original) The method of claim 1, wherein:

said transmitter is part of a base station in a cellular CDMA system; and

said first data includes data to be broadcast as part of a pilot signal.

8. (Original) The method of claim 1, wherein:

said transmitter is part of a base station in a cellular CDMA system; and

said first data includes data to be broadcast as part of a paging signal.

9. (Original) The method of claim 1, wherein:

generating a transmit signal includes using dirty paper cancellation techniques.

10. (Previously Presented) The method of claim 1, wherein:

said common channel interference component is an interference component that would be output by a receiver of said specific user device as a result of transmitting said first data from said transmitter into said common channel without using interference mitigation.

11. (Previously Presented) The method of claim 10 wherein:

determining said common channel interference component includes determining an effect of the common channel, as given by said channel information, on said first data.

12. (Canceled)

13. (Canceled)

14. (Original) The method of claim 1, further comprising:

transmitting said transmit signal from said transmitter.

15. (Currently Amended) A communication apparatus comprising:

a common channel interference unit to determine a common channel interference component associated with a remote user device using known common channel transmit data and corresponding channel information; and

a transmit signal generator to generate a transmit signal to be transmitted to said remote user device via a dedicated channel, said transmit signal generator using said common channel interference component and dedicated data to generate said transmit signal;

wherein said transmit signal generator includes:

a subtractor to generate a difference between said common channel interference component and said dedicated data;

a modulo lattice unit to perform a modulo lattice operation on said difference; and

a multiplier to multiply an output of the modulo lattice unit by a scaling value generated based a power value associated with the remote user device.

16. (Canceled)

17. (Original) The communication apparatus of claim 15, wherein:

said transmit signal generator generates said transmit signal using dirty paper cancellation techniques.

18. (Canceled)

19. (Currently Amended) A system comprising:

at least one dipole antenna;

a common channel interference unit to determine a common channel interference component associated with a remote user device using known common channel transmit data and corresponding channel information; and

a transmit signal generator to generate a transmit signal to be transmitted to said remote user device via a dedicated channel, said transmit signal generator using said common channel interference component and dedicated data to generate said transmit signal, wherein said transmit signal is transmitted using said at least one dipole antenna;

wherein said transmit signal generator includes:

a subtractor to generate a difference between said common channel interference component and said dedicated data;

a modulo lattice unit to perform a modulo lattice operation on said difference; and

a multiplier to multiply an output of the modulo lattice unit by a scaling value generated based a power value associated with the remote user device.

20. (Canceled)

21. (Canceled)

22. (Currently Amended) An article comprising a storage medium having instructions stored thereon that, when executed by a computing platform, result in:

obtaining first data to be delivered to multiple user devices via a common channel;

obtaining second data to be delivered to a specific user device via a dedicated channel;

acquiring channel information for a common channel between a transmitter and said specific user device; and

generating a transmit signal for said specific user device using said first data, said second data, and said channel information, said transmit signal to be transmitted from said transmitter to said specific user device via said dedicated channel, wherein generating said transmit signal includes:

determining a common channel interference component using said first data and said channel information for said common channel; [[and]]

determining a difference between said common channel interference component and said second data;

performing a modulo lattice operation on said difference; and

scaling a result of the modulo lattice operation using a power value associated with the specific user device.

23. (Currently Amended) The article of claim 22, wherein said instructions, when executed by the computing platform, further result in:

acquiring a channel information for a dedicated channel between said transmitter and said specific user device before generating said transmit signal, wherein generating said transmit signal includes using said channel information for said dedicated channel;

wherein scaling the result of the modulo lattice operation also uses said channel information for said dedicated channel.

24. (Original) The article of claim 22, wherein:

said transmit signal is configured so that common channel interference will be at least partially cancelled within said specific user device after reception therein.

25. (Original) The article of claim 22, wherein:

generating a transmit signal includes using dirty paper cancellation techniques.

26. (Canceled)

27. (Previously Presented) A method comprising:

obtaining first data to be delivered to user devices associated with a first class via corresponding dedicated channels;

obtaining second data to be delivered to user devices associated with a second class via corresponding dedicated channels;

acquiring channel information from user devices associated with said second class;

generating transmit signals to be transmitted to user devices associated with said first class without using dirty paper techniques; and

generating transmit signals to be transmitted to user devices associated with said second class using said first data, said second data, and said channel information, wherein generating said transmit signal to be transmitted to user devices associated with said second class includes:

determining a composite interference component based on said first data; and

subtracting said composite interference component from said second data.

28. (Original) The method of claim 27, wherein:

said first class includes user devices that do not use dirty paper cancellation techniques.

29. (Original) The method of claim 27, wherein:

said second class includes user devices that use dirty paper cancellation techniques.

30. (Previously Presented) The method of claim 27, wherein:

generating transmit signals to be transmitted to user devices associated with said second class includes using dirty paper cancellation techniques.

31. (Previously Presented) The method of claim 27, wherein:

generating transmit signals to be transmitted to user devices associated with said second class includes generating signals that are configured to cancel interference caused by signals transmitted to user devices associated with said first class.

32. (Previously Presented) The method of claim 31, wherein:

generating transmit signals to be transmitted to user devices associated with said second class includes generating signals that are configured to cancel interference caused by signals transmitted to user devices associated with said second class.

33. (Previously Presented) The method of claim 27, wherein:

generating transmit signals to be transmitted to user devices associated with said second class includes performing a decomposition of a channel matrix into a unitary matrix and a triangular matrix.

34. (Previously Presented) The method of claim 27, wherein:

generating transmit signals to be transmitted to user devices associated with said second class includes performing a modulo lattice operation.

35. (Previously Presented) A communication apparatus comprising:

an interference unit to collect data to be delivered to user devices within a first class via corresponding dedicated channels and to use the collected data to generate a composite interference signal; and

a transmit signal generator to generate transmit signals to be transmitted to user devices associated with said first class without using dirty paper techniques, and to generate transmit signals to be transmitted to user devices within a second class via corresponding dedicated channels using said composite interference signal, dedicated data to be delivered to said user devices within said second class, and channel information associated with said user devices within said second class;

wherein said transmit signal generator is configured to subtract said composite interference component from said second data and to generate said transmit signals to be transmitted to user devices within said second class using said subtraction of said interference component from said second data.

36. (Original) The communication apparatus of claim 35, wherein:

said first class includes user devices that do not use dirty paper cancellation techniques.

37. (Original) The communication apparatus of claim 35, wherein:

said second class includes user devices that use dirty paper cancellation techniques.

38. (Previously Presented) The communication apparatus of claim 35, wherein:

said transmit signal generator uses dirty paper cancellation techniques to generate said transmit signals to be transmitted to user devices within said second class.

39. (Original) The communication apparatus of claim 35, wherein:

said transmit signal generator includes a modulo lattice unit.

40. (Original) The communication apparatus of claim 35, wherein:

said transmit signal generator includes matrix decomposition functionality for decomposing a channel matrix into a unitary matrix and a triangular matrix.

41. (Currently Amended) A method comprising:

generating at a transmitter, using common channel information, a transmit signal for transmission to a remote user device via a dedicated channel, wherein the transmit signal is pre-configured at the transmitter so that common channel interference is mitigated within said remote user device upon reception; and

transmitting said transmit signal;

wherein generating said transmit signal includes:

determining a common channel interference component using said channel information for said common channel; and

determining a difference between said common channel interference component and data to be transmitted to said remote device via said dedicated channel;

performing a modulo lattice operation on said difference; and

scaling a result of the modulo lattice operation using a power value associated with the remote user device.

42. (Canceled)

43. (Original) The method of claim 41, wherein:

generating a transmit signal includes using dirty paper cancellation techniques.

44. (Canceled)

45. (Canceled)

46. (New) The communication apparatus of claim 15, wherein the scaling value is generated further based on channel information for said dedicated channel.

47. (New) The system of claim 19, wherein the scaling value is generated further based on channel information for said dedicated channel.